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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,545	03/20/2001	Bruce D. Melick	P04409US1	2555
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MCKEE, VOORHEES & SEASE, P.L.C.			EXAMINER	
801 GRAND AVENUE			SEDIGHIAN, REZA	
SUITE 3200			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/812,545

Applicant(s)

MELICK ET AL.

Examiner

M. R. Sedighian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1,3,4,21,22,38,45-47,49,50,58 and 62-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,21,22,38,45-47,49,50,58 and 62-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

1. This communication is responsive to applicant's 10/31/07 amendments and remarks.

The amendments have been entered. Claims 1, 3-4, 21-22, 38, 45-47, 49-50, 58, and 62-64 are now pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 21-22, 38, 46-47, 50, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US Patent No: 6,603,818 B1).

Regarding claims 1, 21, 38, 47, and 58, Dress teaches a method of transmitting data using pulse modulation (col. 1, lines 15-20), comprising: receiving bits of data from a memory unit (col. 10, lines 59-67); transforming (1250, fig. 12) a plurality of the bits of data (col. 7, lines 21-35, Multiple Bits Per Symbol) into an ultrawideband pulse (col. 11, lines 41-47), the ultrawideband pulse having a pulse duration corresponds to the bits of data (col. 1, line 28, the generated pulses each have its pulse duration); and transmitting (1290, fig. 12) the ultrawideband pulse over a guided medium (the generated pulses are propagating over guided mediums to antenna 1290, as it is shown in fig. 12) to a receiver (1400, fig. 14) without using a carrier signal to transmit the ultra wideband pulse (col. 10, lines 51-67, col. 11, lines 1-18). Dress differs from the claimed invention in that Dress does not specifically disclose generating a set of ten predetermined pulse durations, one of which corresponds to the of bits of data. However, it is well known that a pulse generator such as pulse generator 1250 of Dress can

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generate pulses of different durations. Dress discloses its invention allows both the bandwidth and position in frequency of an individual pulse to be determined (col. 5, lines 60-63). Dress also discloses generation and transmission of a pulses of longer durations (col. 3, lines 55-67, col. 5, lines 64-67). Accordingly, it would have been obvious to a person of ordinary skill in the art at the time of invention that the data pulse signal generation and transmission system of Dress can generate pulses of different durations, or pulses of ten predetermined pulse durations, to increase the transmission information rate and to allow a more versatile architecture (Dress, col. 3, lines 26-35). Dress further differs from the claimed invention in that Dress does not specifically disclose pulse durations correspond to one of integers 0 through 9. Dress discloses a composite pulse representing a binary code can be generated (col. 2, lines 56-59 and fig. 8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that the signal pulse generation and transmission system of Dress that generates pulses representing binary codes can also generate and transmit pulses of different duration corresponding to integers 0 through 9 such that different data signals can be transmitted. As to claim 47, Dress further discloses transforming a plurality of bits of data into a monocycle ultra wideband pulse having a pulse position (col. 5, lines 60-63, col. 6, line 65, col. 15, lines 15-32, col. 16, lines 1-2).

Regarding claims 4, 46, and 50, Dress further discloses receiving (1400, fig. 14) the ultra wideband pulse from the guided medium at the receiver (col. 11, lines 40-46); and transforming the ultra wideband pulse into the plurality of bits of data corresponding to the durations of the ultra wideband pulse (col. 11, lines 45-67, col. 12, lines 1-13).

Regarding claim 22, Dress further discloses the transmitting pulse can be a pulse of light that can be transmitted over a fiber optic cable (col. 2, lines 10-12).

4. Claims 3, 45, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US Patent No: 6,603,818 B1) in view of Campana, Jr. (US Patent No: 6,98,783 B1).

Regarding claims 3, 45, and 49, Dress differs from the claimed invention in that Dress does not specifically disclose data is in the form of universal character encoding. However, it is well known to transmit characters as signal transmission pulses. For example, Campana discloses the transmission of information in a series of characters by using pulse width modulated signals (col. 51, lines 9-14). As it is taught by Campana and as it is well known, it would have been obvious to a person of ordinary skill in the art at the time of invention that a data transmission system such as the one of Dress can transmit data that is in the form of universal character, as signal transmission pulses to transmit different characters or texts.

5. Claims 62-64, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dress, Jr. et al. (US Patent No: 6,603,818 B1) in view of Keller et al. (US Patent No: 4,931,751).

Regarding claim 62, Dress discloses a method of transmitting data (col. 1, lines 15-20, 50-53), comprising: representing a symbol (col. 7, line 21, multiple bits per symbol) encoding a plurality of bits of data (col. 1, lines 50-58) using a pulse characteristic of a single (col. 1, lines 55-57, multiple bits per pulse) time modulated ultrawideband radio-frequency pulse (col. 11, lines 41-48) over a guided medium (col. 2, lines 10-13, note that the generated signal pulses are

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transmitted over the guided medium to the antenna 1012, shown in fig. 10) from a transmitter (1012, fig. 10) to a receiver (1101, fig. 11). Dress differs from the claimed invention in that Dress does not disclose encoding the plurality of bits into a base 10 representation, such that the single time modulated ultrawideband pulse corresponds to a digit between 0 and 9. Dress discloses a method of pulse transmission for communicating multiple bits per pulse (col. 1, lines 56-57). Dress further discloses a composite pulse that represents a binary code (col. 2, lines 57-59 and fig. 8). Keller discloses an apparatus and method for producing pulse width modulated signals from digital information (col. 1, lines 8-12), wherein a plurality of bits of data are encoded into a base 10 representation, such that a single time modulated pulse corresponding to a digit between 0 and 9 can be produced (col. 1, lines 52-56 and fig. 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of encoding of the data bits, such as the one of Keller, for encoding the data bits in the transmission system of Dress to encode and transmit different data or texts.

Regarding claim 63, Dress discloses the guided medium is an electrically conductive guided medium (col. 2, lines 11-12).

Regarding claim 64, Dress discloses the pulse characteristic is a pulse duration (col. 3, lines 64-65 and fig. 6).


6. Applicant's arguments with respect to claims 1, 21, 38, 47, and 58 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments with respect to references of Dress have been fully considered but they are not persuasive.

Remark states Dress does not disclose transmitting a single time modulated ultra wide band radio frequency pulse over a guided medium from a transmitter to a receiver. Dress discloses the transmission of ultra wideband pulses (col. 11, line 42) representing bits of data (col. 7, lines 22-27, multiple bits per symbol) that are propagated over guided mediums between the circuits (1260, 1270, fig. 12) from the transmitting antenna 1290 to the receiving antenna 1400. Therefore, a single time modulated ultra wideband radio frequency pulse transmitted over a guided medium from a transmitter to a receiver, as it is shown in fig. 12.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
M. R. SEDIGHIAN  
PRIMARY EXAMINER